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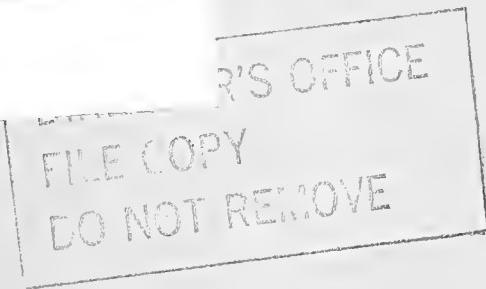
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THE FEASIBILITY OF
PRIVATELY-FUNDED BUS STOP SHELTERS
FOR THE
CITY OF BOSTON



Prepared by
The Boston Redevelopment Authority
For
The Traffic & Parking Department
City of Boston
Kevin H. White, Mayor
Sponsored by
The Metropolitan Area Planning Council

October, 1980

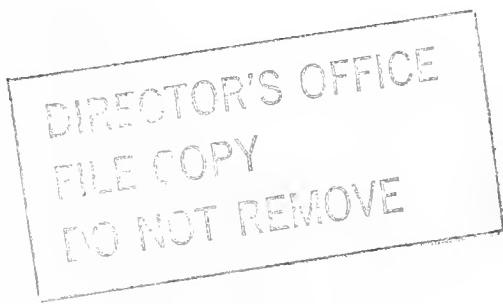
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FORWARD

The report, on the feasibility of private funding of bus stop shelters, is the first in a series of three reports being prepared by the City of Boston, made possible by a grant from the U.S. Environmental Protection Agency (EPA). Section 175 of the 1977 Clean Air Act Amendment provides funds through the Metropolitan Area Planning Council, via the Urban Mass Transportation Administration to study ways of improving air quality within the Boston Region, and ultimately contribute toward the attainment of the national ambient air quality standards.

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I. INTRODUCTION

The impetus behind this bus stop shelter program lies in the 1967 Air Quality Act and Amendments. The 1970 Clean Air amendment required EPA to establish ambient air quality standards for specified air quality control regions. These ambient air quality standards were created for stationary source pollutants, as well as for hydrocarbons, carbon monoxide and nitrogen oxides, which are the primary mobile source (vehicular) pollutants.

The standards set for hydrocarbons and carbon monoxide in the 1970 Act were well exceeded in the Boston region, as in most metropolitan areas. The 1970 Act contained a timetable for auto emission standards, and the original compliance date of May, 1975 was extended to 1977 when it became clear that changes in auto emissions alone would not achieve the desired pollutant levels. Significant reductions in auto use would also be necessary. The Commonwealth did not submit a plan to EPA, as required, to reduce automotive Vehicle Miles Traveled (VMT), and EPA themselves drew up the transportation control plan for the Boston region in June, 1973.

EPA's plan for VMT reduction mandated improvements which would encourage transit and carpool/vanpool use, combined with disincentives for automobile use. The transportation incentives encompassed a state-assisted carpool/vanpool program, exclusive bus/carpool lanes, and preferential parking and tolls for carpools; encouragement of bicycle commuting through a network of bicycle paths; expansion of fringe park and ride lots; and an employer transit-pass program.

The automobile disincentives included:

- a ban of on-street parking in the "freeze area" (Boston Proper) from 7:00 A.M.-10:00 A.M., weekdays;
- imposition of a 25¢/hour surcharge on off-street parking in the Boston core area during commuting hours;
- setting aside 40% of all spaces in each off-street commercial parking facility for patrons who arrive after 10:00 A.M., weekdays (non-commuters);
- a freeze on the number of employee parking spaces in the Boston core area, Logan Airport, Cambridge and parts of Somerville;
- a regional restriction of employee parking, specifically a 25% reduction in the available employee parking spaces for employers of 50 or more, or that amount of spaces necessary to attain a parking space/employee ratio of 0.75;
- a freeze on the construction of new parking spaces, so that the total quantity of parking spaces available (including those under construction) on October 15, 1973, be maintained.

Public response was quite unfavorable toward these proposals and in 1973 and early 1974, Congress attempted to pass legislation prohibiting parking price disincentives. Responding to this threat, EPA voided all parking surcharge regulations in June, 1974. That same administrative order authorized the

suspension, until January 1, 1975 of the "applicability of any regulations for the management of parking supply or any requirement that such regulations be a part of an applicable implementation plan." However, the resumption of the federally imposed freeze was specifically barred by subsequent Congressional action. In December, 1974, Congress prohibited the use of any funds for the promulgation or implementation of parking regulations in the EPA appropriation bill for fiscal 1975.¹ Despite this action, it was still possible for the states to submit parking surcharges or a parking freeze as part of their implementation plan.

The 1975 Transportation Control Plan for the Boston Region, promulgated by EPA, softened many of the previously proposed restrictions and augmented the transit, bicycle and carpool incentives.

The parking freeze took its present form in this amendment. The previous regulation was modified by application of the freeze only to commercial spaces. The 25% reduction of employees parking spaces was changed to a target 25% reduction in the number of single passenger commuting vehicles used by employees and students. No enforcement action would follow if a good faith diligent and expeditious effort was made to encourage the use of carpools and mass transit. The ban on on-street parking in Boston Proper was to be in effect between the hours of 7:00 and 9:30 A.M. weekdays; exempt for autos which have a resident parking sticker in legal spaces.

Improvements in the provision of transit service were mandated, including better publicity of routes and schedules, the study of highway corridors which would be suitable for express bus lanes, improved transit service to the airport, and more convenient service to large employers. Bicycle incentives included the installation of bike parking facilities (particularly at transit stations), the construction of bikeways, production of bicycle route maps and other publicity measures. The vanpool program was expanded and employers of 1,000 or more employees were required to "acquire,... insure, and make available to any group of at least 8 employees a van for their use as a vanpool."

The 1977 Clean Air Amendments authorized the extension of the final deadline for achievement of the ambient air quality standards for areas with severe photochemical oxidant or carbon monoxide problems (which includes Boston) to December, 1987. The amendment required that each state submit a State Implementation Plan (SIP) delineating the measures by which it will comply with the air quality standards.

The current SIP includes the transportation control measures promulgated in the 1975 plan, and is continually being updated to include strategies which will complement the effort to reduce VMT.

Section 175 Program

The Section 175 program directs EPA to make grants to meet the reasonable costs of plan development in areas violating national ambient air quality standards for carbon monoxide or ozone.

The funding is intended to:

1. aid local agencies in the preparation of local components of SIP's through an integrated transportation-air quality planning process;
2. ensure the development and implementation of reasonable, balanced plans that provide for the reduction of transportation system emissions and demonstrate attainment by the statutory deadlines; and
3. assist urban areas in the integration of related federal programs and providing means to achieve clean air goals and economic growth.

The grants were allocated by giving priority to funding those tasks related to the control of carbon monoxide and hydrocarbons and have a high likelihood of leading toward adoption and implementation of effective control strategies.

The MAPC received funding to enable the City of Boston to develop the following strategies which may have a positive effect on Boston's air quality:

1. a program for Private Sponsorship of Bus Shelters;
2. a Boston Resident Parking Sticker Program;
3. an analysis of Downtown Boston Parking Programs.

These potential actions are to be studied in terms of their operational feasibility, impact on VMT's, energy and air quality; and social and economic implications.

The aim of this first report on private sponsorship of bus shelters is to investigate the institutional feasibility of this low-cost program and its ability to attract people out of their cars and into transit, thus reducing VMT and contributing toward compliance with the air quality standards. The study consists of a review of: the current role that bus shelters play in public transit, in Boston and other cities; the attitude of transit patrons toward shelters; and the benefits and problems entailed by such a program.

II. REVIEW OF CURRENT METHODS OF PROVIDING AND MAINTAINING BUS SHELTERS

The vast majority of passenger shelters within the MBTA district are provided by the MBTA. These shelters are located at bus stops, streetcar stops and rapid transit and commuter rail stations. Their purpose is to protect a waiting patron from inclement weather, particularly rain and wind. Benches, often placed within the shelter, in addition to the weather protection afforded by the structure, help to make the wait for transit service more comfortable.

The MBTA shelters are typically five feet wide and ten feet long, of aluminum frame construction with plexiglass (Lexan) panels. Most of the shelters come with aluminum benches and have openings on both ends of the front panels to permit egress and exit. There is a six-inch gap on the bottom of the shelter, which allows the wind to ventilate the structure, mitigate odors, and blow away debris.

There are currently 150 shelters of this type in the MBTA district, (see following photograph) and 60% of them, or 89 are located within the City of Boston. Although the MBTA's 1976 Service Policy provides standards and priorities for shelter placement, it has been customary for shelter locations to be recommended according to local initiative. The locations of the shelters within the City of Boston are designated on the following map.

Installation and Maintenance

The MBTA installs and maintains the shelters. The recipient city or town must provide a building permit for the structure, and put in the concrete slab base. The MBTA's crews then assemble and anchor the prefabricated modular structure, and are responsible for replacement of worn or vandalized parts.

A maintenance firm has a contract to clean each shelter monthly, which includes washing the panels and benches, and sweeping. Most of the shelters are subject to high levels of use and a monthly cleaning is a barely adequate level of maintenance.

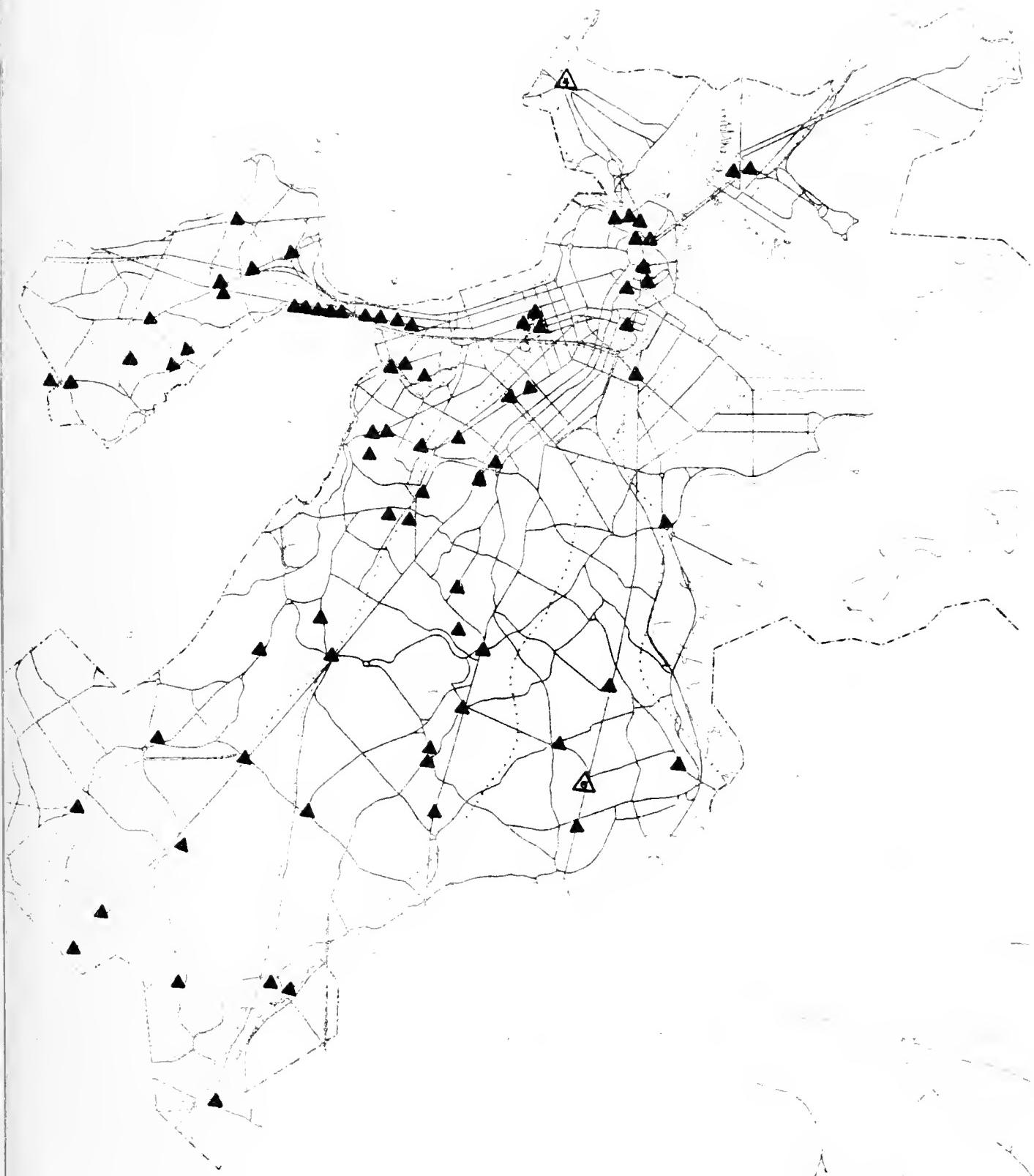
It probably would come as a surprise to most patrons to discover that the shelters were ever cleaned and washed. A contributing factor in this regard is that the panels become scratched and clouded with wear and never appear clean. However, the system for checking up on the contractor appears to consist of informal and incidental inspection by MBTA instructors and inspectors whose main responsibility is field supervision of bus operations.

Future Plans for Shelters in Boston

Fifty shelters are currently on order to the MBTA, funded through Transit Efficiency grants. These shelters, of similar design to those currently on the streets, will be allocated in the same proportion as the existing shelters -- 60% to Boston, the remainder to the other communities. Transit Efficiency grants, earmarked for low-cost improvements, are discretionary funds, and it is not anticipated that additional shelters will be funded through this program for several years. Therefore, the purchase of additional shelters at an estimated cost of over \$4,000 apiece, would have to be drawn from funds

A TYPICAL MBTA SHELTER





 **SHELTER LOCATIONS
IN BOSTON, 1979**

allocated for operations and other capital programs. Recent cutbacks in service and staffing, as well as capital expenditures, make it unlikely that more shelters will be procured through expropriations from budget items that have been assigned higher priorities. Therefore, if more shelters are desired in Boston, other funding sources must be pursued.

III. REVIEW OF OTHER CITIES' METHODS OF PROVIDING AND MAINTAINING BUS SHELTERS

Other cities, with climates similar to Boston's, have placed more emphasis on the installation of bus shelters. Cities such as St. Louis and Cleveland have many more units in place than in Boston - partly a function of their greater reliance upon surface transit. Up until recently, UMTA or local funds were used to purchase shelters. Now, several cities are experimenting with privately sponsored shelters, or a mixture of public and private funding. Discussions and correspondence with transit officials in several of these cities and bus shelter company officials have supplied information about the successes and problems of these programs, and can give us guidance for subsequent efforts.

New York City

The first and most publicized experience with privately sponsored shelters has been in New York City, where litigation has delayed the expansion of their program. Despite problems, this concept was successful enough to be adopted in other cities across the country. Two typical shelters of this type are shown on the following pages.

In 1975, Bustop Shelters, Inc., pioneered the idea of a private concern building and maintaining bus shelters in return for selling advertising on them. The company signed a three-year contract with the City, calling for the erection of 1,000 shelters, their maintenance, and a monthly payment to the City of 5% of the gross advertising revenues. 500 shelters were eventually constructed, and at the end of 1978 the gross advertising revenues were estimated at between \$125-150,000 per month.

Prior to the expiration of the initial three-year contract, an audit of Bustop Shelters, Inc., was performed by the City Comptroller. The result of the audit was a decision to not renew the contract as a negotiated franchise, but to put it out for competitive bidding. This opinion spawned charges that an initial audit, favorable to Bustop, was suppressed because of political influence. The comptroller issued a statement that he could not "condone the deliberate awarding of a valuable franchise for bus shelters without competitive bidding." (New York Times, November 13, 1978)

The lucrative possibilities of this concept had become apparent. The contract was put out to bid and a new company, Convenience and Safety, won the award. They offered to build 4,100 shelters in Manhattan and the outer boroughs; to share with the City 20.5% of the gross revenues over the 10-year contract period and guaranteed to give the City a minimum of \$25.8 million over the contract life, regardless of the number of shelters built. A multi-million dollar line of credit was garnered to support these claims. The original contract holder, Bustop Shelters, Inc., offered 15% of revenues and proposed to build 1,513 shelters, with a guarantee to the City of \$5.7 million over the term of the contract.

Charges, investigations and litigation soon followed. The FBI investigated the possibility that Federal violations may have occurred during the bus shelter award process. This led to counter-charges that a Bustop executive, a former FBI employee, had unduly influenced the investigation. A Federal Grand Jury was subsequently convened to determine if any criminal acts were committed in the award of the franchise. The New York City Board of Ethics



A TYPICAL SHELTER UTILIZING AN EASEMENT



A TYPICAL CURBSIDE SHELTER

examined the possible conflict of interest of the former City Transportation Commissioner under Mayor Beame, Alex Mautner, who is currently an official with Convenience and Safety. The Investigation Commissioner of the City began an investigation of the arrangements of the competitive bidding, as Bustop officials charged that the bidding was rigged because the performance bond was raised from \$50,000 on the first contract to \$12 million. However, it was counter-claimed that only half of the promised number of shelters had been built by Bustop and that the increased bond was necessary for the City's protection.

The signing of the contract was held in abeyance while the legal problems were settled. In the meanwhile, Bustop began paying the City a higher percentage of the gross revenues - about 16%. But there was another dispute as to who owned title to the shelters. Bustop claimed that they could continue to sell advertising in the existing shelters regardless of who was awarded the contract because they owned the shelters. The City offered to buy the shelters from the company, but there was disagreement over the price, and Bustop pursued legal action. The New York City Board of Estimate then voted to withdraw the offer to purchase the shelters, and required the company to turn over the title to the City or have the shelters removed from the streets.

Recently, a compromise on the civil suit has been reached, and new bids will be solicited for the program.

Cleveland

Cleveland took a different approach in their shelter program. Within the last several years the Cleveland Regional Transit Authority (RTA) has purchased 500 shelters with UMTA funds, and contracted with a firm to place advertising in the shelters. City Shelters, Inc., of Cleveland, a subsidiary of a Philadelphia firm, bought advertising boxes which can be mounted in the shelter, but the shelter itself belongs to the RTA. In return, the company pays the RTA 15% of the gross advertising revenues and is responsible for maintenance of all 500 shelters, but not repairs.

The ambiguity of ownership encountered in the New York program was solved in this case. However, each locality in the RTA district had to give City Shelters, Inc., permission to put the advertising boxes in the shelters. Most of the towns and cities have stringent outdoor advertising laws, prohibiting such ads. In some instances, the company did not seek approval and installed the ads anyway, which caused some problems for the Transit Authority. At the present time there are virtually no ad boxes installed outside the Cleveland City limits.

In the City of Cleveland, about 190 shelters have advertising in them, which is about 40% of the total units in the RTA district. Not all the ad boxes have been rented, but the company has permission to install boxes in all shelters in Cleveland. Meanwhile, a law suit has been recently filed, challenging the legality of the outdoor advertising.

Some problems arose with the shelter construction. One company had the contract for shelter fabrication, and another firm installed the units. So when problems developed, each contractor blamed the other. Also, there was

a lack of coordination between the subcontractors, and unnecessary work was performed. In the upcoming delivery of 250 shelters, a recommendation has been made for one firm to handle all the installation tasks.

The maintenance of the shelters has not been entirely satisfactory, but is improving. An RTA employee has the responsibility to check up on the shelters regularly, and there is a sign on the shelter to the effect that "If this shelter is dirty, please call..." If City Shelters, Inc., wants to place even one advertising box in the next shipment of 250 shelters, they will be responsible for the maintenance of all. The original contract was for a period of five years, renewable for another five years.

The City had investigated the option whereby a contractor would provide the shelters free of charge to the City, but concluded that the shelters were designed to sell advertising, not for the protection of waiting patrons. In weather as severe as Cleveland's, they were found to be unacceptable, despite the "free ride."

IV. AFFECT OF BUS SHELTERS AND OTHER AMENITIES ON TRANSIT RIDERSHIP

Transit ridership is considered to be a function of many characteristics. These include the easily identified factors of fares, frequency of service and travel time, as well as factors reflecting the competing attractiveness of automobile usage, such as travel time, parking availability and fees, auto operating costs, etc. However, there are other features of transit, often called "amenities", which contribute to its attractiveness. Cleanliness, security, comfort of ride, seat availability, weather protection, courtesy of operators, and availability of route and schedule information are some of the other features of transit which play a role in influencing ridership. However, it is very difficult to discern how these characteristics affect patronage.

It has been asserted that there are transportation "hygiene" factors which are "subjective qualities that are necessary but are never permanently satisfied, need continual improvement and seem... most related to maintenance and equipment costs." The effect of these factors is summarized thusly: "There would be certain attributes that would create satisfaction, but the absence of such attributes, although it might discourage and displace riders, would not dissatisfy to the point of causing people to change modes."² In other words, only the more direct "level of service" indicators (travel time, frequency, cost, etc.) can influence modal choice. This view then implies that amenities are features conducive to comfort or convenience, which may elicit complaints, or more infrequently, praise, but do not contribute toward changing anyone's behavior.

Review of Studies

Few studies involving amenities and ridership have been conducted. One somewhat related study which attempted to gauge changes in ridership was concerned with the effect of improved information systems in Washington, D.C. Consumers in a selected area were asked how they would obtain information about transit and what improvements they would like to see. As a result, new bus stop markers, bus route indicators for the sides of buses and timetable folders were produced and distributed in the survey area. No major affects on ridership were observed during the five-year study. This finding, that ridership on mass transit systems was not influenced by improvements in the information available to consumers, was supported in another cited study.³

A more directly related, but less in-depth study was conducted by the California Department of Transportation which contained an evaluation of bus shelter materials, and design and installation. Included was a passenger survey, which posed the question, "Did you start using the bus because of the shelter?" It was concluded that "shelters, by themselves, do not attract a significant number of new bus riders."⁴

In 1978, the MBTA sponsored a marketing survey⁵ for the purposes of identifying market segments which offer potential for increased ridership, and developing information on consumer attitudes towards the MBTA. Approximately 1,200 residents of the metropolitan Boston area were surveyed. The survey respondents were chosen randomly, but care was taken to provide a representation from selected Boston neighborhoods in addition to certain suburban areas; and for the inclusion of frequent, non-frequent and non-users of the MBTA from each of these areas.

A list of seven possible actions, including both amenities and level of service changes, that the MBTA could implement was presented to the survey participants. They were asked to place these in order of priority. The list of improvements, along with the percentage of first place mentions are:

More evening service	37%
More policemen on trains and stations in the evening	21%
Improving cleanliness	19%
Building more shelters	8%
Better information about transit system	6%
Improving employee courtesy	6%
More policemen in trains and stations during daytime	4%

Thus, building more shelters is considered to be of utmost priority by only 8% of the surveyed population, of significantly lesser concern than more evening service, safety at night, and cleanliness.

The data provided additional insight into the characteristics of the respondents and their choice of priorities. Some of these demographic characteristics which could be expected to have an influence on an individual's choice of improvements include the degree to which a person is transit-dependent, location of residence and age. The extent to which a respondent felt that they must rely on public transportation, or had other available options, was measured on a scale from one to nine. However, transit dependency did not appear to influence one's attitude toward the importance of bus shelters. Nor did the other variables seem to differentiate between those people who considered construction of shelters to be very important, or those who held other improvements as higher priorities.

Thus, this data does not provide information of any particular age group, residential location or economic group (as loosely measured by transit dependency) which can be targeted for shelters. A conclusion can be drawn, however, that people would prefer to have resources first spent towards more service, security and maintenance, before building shelters.

Most other studies dealing with amenities assume that such improvements are a grouping of strategies which have impact in the aggregate; not as isolated actions. This viewpoint forms the basis for Transportation Systems Management (TSM) strategies.

Transportation Systems Management

TSM strategies are defined as short-term, relatively low-cost actions which utilize the transportation system in a more efficient manner. These types of improvements were conceived in response to the impacts -- fiscal and otherwise -- of large-scale, capital intensive highway and transit projects, and growing concern with energy conservation and air quality. The development and inclusion of TSM strategies in a region's transportation plans is a prerequisite to the receipt of federal transportation funds.

The objectives of TSM, as stated in the 1979 Transportation Systems Management Element of the Transportation Plan for the Boston Region include:

- integration and coordination of modes
- improvement of the delivery of transit service
- minimization of energy consumption
- improvement in safety and security
- consistency with the 1977 Clean Air Amendments

Clearly, amenities' improvements can be included as TSM strategies. The method by which the effectiveness of these improvements is proposed to be assessed is through operating measures (patronage and route-miles, for example), and changes in vehicle miles traveled (VMT). However, no attempt at estimating these measures for various TSM strategies are made in this above-referenced document.

This lack of substantive data is not unusual in TSM plans, as discovered by a researcher who reviewed many regions' TSM plans. He listed transit amenity improvements which are commonly proposed as TSM elements: transit marketing, security measures, fare policies, integration of transportation services, transit terminals and transit shelters. However, despite assumptions in these plans that a relationship exists between such improvements and a tendency to shift to transit, no quantification of these effects were found. In the absence of any hard data, the author concluded that these types of improvements "generally have a minimal effect on the modal switch. The maximum potential is realized when these service improvements are used to complement other strategies, primarily those relating to auto disincentives⁶ where adequate alternative service is absolutely necessary for success."

Specifically, in regard to transit shelters, he states that

"a passenger shelter which provides protection from inclement weather and offers seating facilities at transit stops is an important amenity to current and potential patrons. The amount of time spent getting to a pick-up point and/or waiting for the vehicle is a factor in modal choice. Studies have shown that the amount of time waiting for transit is generally perceived to be at least twice the value attached to actual travel time, and accordingly, any amenities attached to this waiting time enhances the attractiveness of utilizing transit."

This view is reinforced in a study of the energy conservation potential of TSM transit improvements for New York State.

"In general, many studies have indicated that provision of passenger amenities has a small but positive effect on transit ridership. There is some evidence that amenities are more important in maintaining current levels of ridership than in attracting riders to mass transit. The extent of the effect on ridership is difficult to quantify, because amenities are often provided as part of a package of transit service improvements. A Federal study indicates that an optimistic estimate of the change in ridership resulting from a major program of bus shelters, transfer stations and other (amenities) is an increase of 5%."⁸

The review of the available research leads to the conclusion that the provision of bus shelters alone will have, at best, a slight effect on ridership. The data does not permit an estimate of the changes in VMT or the effect on air quality following from a privately-sponsored network of shelters. However, the presence of attractive, functional bus shelters can be part of a wider effort to upgrade the MBTA system, making transit a more desirable option for both new riders and present patrons.

V. FEASIBILITY OF PRIVATELY-FUNDED SHELTER PROGRAM FOR BOSTON

If Boston is to acquire any additional bus shelters within the next several years, it will most likely have to be funded through a program of complete private sponsorship as in New York City. The MBTA does not anticipate receiving additional funds which could be applied towards shelters in the near future, and a shelter program such as Cleveland's is based on the willingness of the transit authority to purchase the shelters themselves, and then sell advertising space.

Based on New York's experience, it is likely that complications can be expected to arise during the administration of this program. Some of the potential problems could be:

- adequate sidewalk width;
- vandalism; and
- quality of weather protection

These are unrelated to the sponsorship of the program. But other issues stemming from the private ownership aspect of the shelters which may hamper the success of the program include:

- the legality of advertising on public ways;
- the public response to the advertising content;
- the inflexibility of shelter design and location due to the advertising panels;
- liability for accidents;
- responsibility for and supervision of maintenance
- contract provisions; and
- City policy

1. Sidewalk Width

A basic problem is that of sufficient sidewalk width. In the most congested parts of the City, existing sidewalk width is often inadequate or barely adequate to accommodate pedestrian traffic. Therefore it is necessary to ensure that the placement of shelters does not:

- crowd pedestrians off the sidewalk
- impede access to commercial activities
- block drivers' view of pedestrians stepping off the curb
- interfere with curb cuts, hydrant location, etc.

What would the minimum sidewalk width be which would not contradict the above criteria?

The width of the shelters used in other cities varies between 4 and $5\frac{1}{2}$ feet. The distance between curb and face of shelter used by the MBTA is a minimum of $1\frac{1}{2}$ feet. The distance between the shelter and the building face (usable sidewalk area) is preferred by the City Public Works Department (PWD) to be no less than seven feet wide. These standards would result in a minimum sidewalk width of $13\frac{1}{2}$ feet ($5+1\frac{1}{2}+7$), as depicted in the following diagram.

Edge of Building (Preferred)

Edge of Building (minimum)

SIDEWALK

5'

7'

SHELTER

5'

Edge of Shelter (Preferred)

Edge of Shelter (Minimum)

Edge of Curb

1.5'

2'

BUS SHELTER
MINIMUM SIDEWALK STANDARDS

The standards used in Manhattan are similar. Their criteria call for three feet between curb and shelter, and at least seven feet behind. However, these criteria can be compromised by:

1. the installation of a reduced depth shelter (3 feet)
2. moving the shelter longitudinally toward the front or rear of the bus stop
3. reducing the clearance behind the shelter to no less than five feet.

Thus, the minimum sidewalk width needed for a shelter in New York would be fourteen feet (or twelve feet in the reduced clearance case), appropriate for locations where pedestrian flows are heavy, typical of Manhattan.

Assuming twelve feet of sidewalk would be adequate in certain situations, depending on the pedestrian volumes, forty-seven bus stops with that sidewalk width or greater are shown on the attached map. These locations were the only ones where 12 or more feet of sidewalk existed among a list of 200 bus stops in the City of Boston, selected by the MBTA as priority locations for shelter placement.

It is unclear what the threshold number of shelters would have to be to make the program sufficiently attractive to entice competitive bidding and to make it worthwhile for the City to administer such a program. However, the sites would be scattered throughout the City, representing all neighborhoods and permitting the Contractor to offer different market areas to advertisers.

Undoubtedly there are other suitable locations for shelters which could be located with the assistance of the MBTA, and a combination of map and field work. Furthermore, easements may be made available at some places where there is a building setback, particularly at elderly housing sites. It would be expected that the support of abutters would be a prerequisite for shelter installation, in all cases. Also the contractor could have the opportunity to locate a specified number of suitable bus stops which meet the criteria.

2. Vandalism, Liability and Maintenance

Vandalism, maintenance and liability for accidents are interrelated issues. It is expected that, as part of the agreement with the City, the Contractor would be liable for all damages to persons or property by reason of the construction, operation or maintenance of bus stop shelters. The Contractor would also be required to take out a specified amount of liability insurance to cover the City and company for any injury or damages caused as a result of the shelter program.

The Contractor would be responsible for all maintenance of the shelters. New York specifies that the shelters will be cleaned twice a week, with a detailed listing of the tasks to be performed, including preventive maintenance. The Southwest Ohio Transit Authority's (SORTA) contract for the Cincinnati area only states that "The Company shall inspect and provide repair and maintenance on a regular basis for said shelters. The Company shall use its best efforts to remove snow from said shelters." Within both contracts are provision for immediate repair/cleaning of "offensive, obscene, or political graffiti" (SORTA) or of "broken panels, burned out lights . . . , etc., within twenty-four hours in New York.



The leverage provisions that SORTA included in its contract to ensure compliance was to give the company five days to remedy the situation, and if the damage was not taken care of within that time period, the transit authority would clean or repair the shelter itself, and assess the Contractor for the cost incurred. New York threatens that the Contractor will be in default if the cleaning and repairs are not performed in a timely manner, and requires a cleaning schedule to be submitted.

Something that has to be contended with in every city is the problem of chronic vandalism. The typical way of releasing the company from obligation to continually make repairs on particular units is to allow them an expense ceiling over a certain period of time, after which they can remove the shelter. New York provides that if any bus stop shelter is "vandalized to the extent that the cumulative expenses of all repairs shall exceed the cost of original construction in a six-month period, the company shall have the right to remove the shelter." In the SORTA contract, if the cumulative expenses of all repairs exceed one-third the cost of the original construction, no time period specified, the company can remove the shelter.

It would be necessary for the City to provide at least one person, perhaps only part-time to inspect the maintenance on a regular basis, report damage, and to review the maintenance and repair bills if the company wanted to remove a shelter.

3. Shelter Design and Quality of Weather Protection

The MBTA shelters are four-sided, with two openings along the front for entrance and exit. There are many complaints about this design. The openings, along with the six inch gap along the bottom of the shelter, allow the wind, rain and snow to blow into the structure. The benches often encourage kids and derelicts to hang out in the shelter. The Lexan panels become scratched and clouded with wear.

The shelter design used by the advertising companies is attractive. The ad panel is on one side of the structure, the panel itself being two-sided, and the back panel is made of clear glass. The front is usually completely open, and on some models the fourth side (parallel to the ad panel) is glass-enclosed. No benches are included. The open design can be thought of as mindful of security -- it is unlikely that a potential victim could be trapped in the structure. However, a roof and two-sided enclosure does not offer much protection from the elements, although it is unquestionably better than nothing. These shelters are also lighted, and the glass is clear for visibility and safety. The lack of benches is intended to discourage loitering.

The Cleveland Regional Transit Authority felt that these shelters were designed to sell advertising, not to protect the waiting passenger. Thus, they preferred to buy the shelters themselves with UMTA funds. Boston does not have that option for several years, and must await further funding from UMTA to purchase shelters.

4. Advertising and Advertising Content

There are several different agencies which have jurisdiction over outdoor advertising. The Massachusetts Outdoor Advertising Board can control and restrict billboards, signs and other advertising devices. They have the power to issue licenses for the business of outdoor advertising, and permits for each advertising location. Conformance with local ordinances and bylaws is required in addition to check off by the Massachusetts Department of Public Works (MDPW) for compliance with Chapter 93D of the General Laws. The Board will not issue permits for signs which are not:

- located in an area of a business character
- in harmony with or suitable for the surrounding area or would do significant damage to the visual environment
- hidden from sight from the main travelled way of an Interstate or Federal Primary Highway
- Outside the limits of any public way except as provided in Chapter 85 of the General Laws
- beyond 300 feet of a public park or reservation if within view of any portion of it
- in conformity with applicable city and town ordinances and bylaws enacted in accordance with Section 29 of Chapter 93 of the General Laws

Chapter 93 deals with the control of outdoor advertising adjacent to the Interstate and Primary Highway systems, and specifically prohibits outdoor advertising within 660 feet of the nearest edge of the right-of-way and visible from the travelled way. Section 29 of Chapter 93 gives cities and towns the authority to further regulate and restrict billboards by ordinance or by-law, not inconsistent with the laws of the Commonwealth.

None of these regulations specifically prohibits the type of advertising found on bus stop shelters.

The Boston Sign Code, which prescribes standards for the size, type and placement of signs, would not be applicable to these shelters, since they are defined as billboards.

Therefore, there are no laws that would disallow the implementation of this program.

Another relevant issue is that the presence of advertising on the shelter may be considered as undesirable by some citizens, particularly in the neighborhoods. As one planner stated, "We've worked so hard to rid the neighborhoods of billboards, and now you want to bring them right in again".

The advertising content may be controversial, as well. A local advertising executive estimated that up to 60% of the advertising would be comprised to liquor and cigarette copy. Another 20% would probably be national advertising of miscellaneous goods, and the remaining portion would be local. Boston's citizenry may be less tolerant than New York's with some of the risque ads which appear on their shelters, and the City Department of Public Works (PWD), the department with jurisdiction over city sidewalks, would not want to be forced to assume a censorship role.



5. Guidelines for Contract Preparation

Some problems have become evident through New York's and Cleveland's experience, and the following considerations should be reflected in Boston's contract process.

Threshold Number of Shelters

If the decision is made to go ahead with this program, the contract must be carefully written to ensure that the City is protected and gets the best deal possible. The advertising contract has the potential to be quite lucrative for the successful bidder; not only for the Boston ad sites, but for the opportunity to combine the Boston market with other cities in order to offer a package to national advertisers.

On the other hand, there is a possibility that only a limited number of sites would be available for shelters, perhaps not enough necessary for the success of the program. First, there must be sufficient sites to make it worthwhile for the City to handle the contract administration, maintenance supervision, and the complaints about advertising, lack of a shelter on someone's corner, etc. Secondly, if a contractor cannot be promised a certain number of locations prior to the bidding, it will be difficult to estimate the costs and revenues of the program.

For example, New York specified a certain minimum number of shelters, and in addition to their maintenance and installation, the winning bid offered cash payments of \$20 million over the 10 year contract life. It would most certainly not be in the City's interest for a contractor to win the bidding with a generous offer, but not have sufficient revenue-generating sites and then have to default on the maintenance of the units.

Process to Determine Locations

A process should be established to generate feasible locations, and to have them reviewed according to criteria. Community groups could be the vehicle through which shelter locations are suggested, obviating community dissatisfaction. The contractor could then investigate whether these locations were suitable for their purposes, and then submit a sketch of the shelter and the site geometry to the PWD. PWD would have to veto power over the sites.

Establishment of Criteria for Safe Shelter Placement

Standards for site geometry must be established. If technically feasible, the shelter itself should be specified as no wider than five feet, and it would be to the contractor's advantage to narrow the shelter as much as possible. Distance between the shelter and curb, building line, street furniture, etc., should be established prior to the bidding process.

Maintenance Procedure

A maintenance schedule should be submitted as part of the bid. A city employee should be assigned to check on the maintenance, and some collateral or bond should be included so as to have some leverage over the contractor if the maintenance is not carried out with diligence.

Bonding

The Commissioner of Franchises in New York strongly recommended that a self-liquidating bond be used to ensure that the promised number of shelters would be built. They had an under-financed contractor who could not build as many shelters as initially agreed.

Title and Depreciation

Clear definition should be made of the depreciation period and title ownership to the shelters in the case of default or other dispute. It was recommended that the title revert to the City after contract expiration, in any case.

Miscellaneous Expenses

The Contractor should restore sidewalks, curbs, streets and all structures to their original condition if they would be disturbed by the installation or removal of shelters. The Contractor should pay for the electricity for the back lighting for all units. Bus maps and up-to-date schedules should be installed in all shelters.

6. City Policies

Although not prohibited by law, it has been City policy within the last ten years not to permit private contractors to install their own street furniture with advertising. This policy evolved through an experience with private installation of concrete waste receptacles containing advertising. Several years ago, a contractor got permission from the PWD to place the waste receptacles on appropriate locations on city streets, provided that the abutting store owners gave their assent. The heavy concrete shell held a barrel, which was lifted out to be emptied. These liners tended to disappear, making trash pickups (by regular PWD crews) very difficult. The contractor was not prompt about replacing them. Moreover, several concrete containers were hit and damaged by snow plows. Again, the contractor was not expeditious about replacing or removing the concrete receptacles. The PWD became the recipient of calls from irate abutters, complaining about the receptacles when they fell into disrepair.

The end result of this program was a distaste for involvement with private contractors. For the PWD, the receptacles turned out to cause more headaches than advantages. Although the City received no revenue from this program, it apparently would not have ameliorated the situation from the PWD's viewpoint.

One note of success in this program: the Commissioner had given the contractor permission to sell advertising, with the proviso that no liquor or cigarette ads appear. The contractor adhered strictly to this prohibition.

In some City neighborhoods in the past several years there have been local efforts to minimize the number of billboards. This trend has not been manifested in all sections of the City, but some opposition to this program may be expected, perhaps further reducing the number of available shelter locations.

CONCLUSION AND RECOMMENDATIONS

Although a program of privately-sponsored bus stop shelters holds promise in some respects, there are numerous deterrents to be overcome. The benefit of providing more bus shelters on the streets would be to make waiting for buses more comfortable and less noticeable, along with a chance that this action would assist in stabilizing or slightly increasing ridership.

Some of the installational problems are immutable in the short run, such as sidewalk width and lack of many downtown bus stops; others, such as the possibility of a negative public response to advertising may be circumvented by advertising controls.

A comparison with New York is in order here. Their situation differs from Boston in many ways. There are hundreds of bus stops in the commercial areas of Manhattan, where the existing shelters are concentrated. The buses operate, in most cases, all night, and there are comparatively high volumes of night-time pass-bys, affording good surveillance of the shelters. They have not, as yet, had a great deal of maintenance experience in the neighborhoods.

Because of the few bus routes running through downtown Boston, the majority of the shelters would have to be placed in neighborhoods. There are fewer pass-bys, day and night, indicating less advertising revenue and less surveillance. Some of the neighborhood commercial areas have limited sidewalk width. There may be more sensitivity to advertising content than in Manhattan. None of these points, however, totally invalidates the viability of the program.

However, City policy, at the present time, does not facilitate a program of this type. The major reasons for this present City attitude can be summarized as follows:

1. Past negative experience with private contractors and advertising on street furniture. The PWD is, at present, not in favor of permitting private contractors to install bus shelters on City sidewalks. Primary among their concerns in this regard are supervision of maintenance and snow removal.
2. Limited Sidewalk Widths. Our initial survey turned up 47 locations with sufficient sidewalk width (greater than 12') out of 200 key bus stops. Undoubtedly others could be found, but they would be at less utilized locations and in areas of a predominant residential character.
3. Advertising and Advertising Content. The above-mentioned concern with the necessity of the placement of shelters in neighborhoods has several implications. One is the Outdoor Advertising Board regulations which prohibit the erection of billboards in areas which are not of a "business character", or with 300 feet of a park. Another issue is that of residents' acceptance of additional advertising in the neighborhoods, even in business areas. Also salient is the possible displeasure with the content of the shelter ads, which most likely will include significant amounts of liquor and cigarette copy.

4. Recommendation from New York City Department of Transportation.
Despite the program's apparent success in New York, a high ranking transportation administrator in that City strongly advised Boston to forego this type of program -- "The shelters are a mess" -- and to acquire them in the conventional manner.

However if, at some point, there is re-evaluation of public policy, it would be advisable to first employ a pilot program of 5-10 shelters placed in the neighborhoods, and to evaluate its acceptability and success prior to the operation of a full-scale program.

In the meanwhile, the City of Boston is working with the MBTA to assure the sensible placement of MBTA shelters on City streets, and of their continual upkeep. The City will incorporate a requirement for the provision of bus shelters for new developments which are located on bus routes, in order to emphasize the importance that surface transit has in Boston transit network; to encourage more transit utilization; and to contribute toward improved air quality in the region.

Footnotes

1. Alan Altshuler, et.al., The Urban Transportation System: Politics and Policy Innovation, MIT Press, Cambridge, Mass., 1977, p. 76.
2. Colin H. Alter, "Evaluation of Public Transit Services: The Level-of-Service Concept", from Bus Transportation Strategies, Transportation Research Record, No. 606, Transportation Research Board, 1976, p. 37.
3. Everett, Anderson and Makranczy, "Transit Route Pamphlets: Do They Work?" Transit Journal, Summer, 1977.
4. Porfirio Hernandez, Bus Passenger Waiting Shelters, Caltrans, Division of Mass Transportation, January, 1977, p.1.
5. Research Analysis Corporation, "A Segmentation Study on Transportation in the Boston Area", conducted for the MBTA, 1978.
6. Eugene D. Arnold, Jr., Opportunities for Energy Conservation in Transportation Planning and Systems Management, Virginia Highway and Transportation Research Council, November, 1978, p. 26.
7. Op. cit., p. 27.
8. Daniel K. Boyle, The Effect of Small Role Transit Improvements on Saving Energy, New York Department of Transportation, Research for Transportation Planning, Report No. 153, June, 1979, p. 12.

APPENDIX

Sidewalk Widths at Selected Bus Stops
in the City of Boston

16+ Feet

<u>Shelter</u>	<u>Route #</u>	<u>Location</u>
1	1	Massachusetts Avenue & Commonwealth Avenue
2	1	Massachusetts Avenue & Westland Street
9	1	Massachusetts Avenue & Belvedere
10	1	Massachusetts Avenue & Commonwealth Avenue
11	1	Massachusetts Avenue & Huntington Avenue
20	2	Atlantic Avenue & Summer Street
37	9	Boylston & Clarendon Streets
38	9	Boylston & Berkeley Streets
39	9	Arlington & Boylston Streets
42	7-6	Summer Street & Atlantic Avenue
65	21-25	Gallivan Boulevard & Morton Street
102	34-36-40	Washington Street and W. Roxbury Parkway
140	43	Tremont & West Springfield Street
142	43	Tremont and Dwight Streets
143	43	Tremont Street & Massachusetts Avenue
149	47	Park Drive & Medfield Street
153	47	Commonwealth Avenue & University Road
157	51	VFW Parkway & Independence Drive
161	55	Boylston Street Opposite Fairfield Street
186	92	Main Street & School Street
190	112	Meridian & Bennington Streets

12-15 Feet

<u>Shelter</u>	<u>Route #</u>	<u>Location</u>
13	2	Chardon Street opp. Hawkins
19	2	Cambridge & Bowdoin Streets
33	9	W. Broadway at D Street
39	9	Berkeley & Columbus Avenue
35	9	St. James & Berkeley Streets
36	9	St. James & Clarendon Streets
40	9	Herald & Tremont Streets
49	15-16-17	Columbia Road & Hancock Street
53	17	Bowdoin Street & Mt. Ida Road
58	19-22-23	Warren Street & Blue Hill Avenue
66	22-29-45	Blue Hill Avenue & Ellington
88	29	Blue Hill Avenue & Evelyn Street
90	29	Blue Hill Avenue opp. Harvard Street
111	35-36-37	Belgrade Avenue & W. Roxbury Parkway
122	E 39	S. Huntington Avenue & Perkins Street
123	E 39	S. Huntington Avenue & Bynner Street
130	E 39	S. Huntington Avenue & Moraine Street
132	39-47	Huntington Avenue & Ward Street
133	39-47	Huntington & Longwood Avenues
137	43	Columbus Avenue & Centre Street

8-11 Feet

<u>Shelter</u>	<u>Route #</u>	<u>Location</u>
3	1	Mass. Avenue & Columbus Avenue
4	1	Mass. Avenue & Tremont Street
5	1-8-10	Washington & Eustis Streets
6	8-10-13-49	Washington & Northampton Streets
8	1	Mass. Avenue & Tremont Street
12	2	Milk Street beyond Congress Street
14	2	Staniford Street opp. O'Connell Way
15	2	Staniford at O'Connell Way
16	2-325-326	New Congress Street & Hanover
18	2	New Congress Street & Sudbury
21	7-9-10-11	Pst. beyond E. 2nd
22	7-9-10	E. 4th Street & P Street
23	7-9-10	E. 4th Street & O Street
24	7-9-10	E. 4th Street & N Street
25	7-9-10	E. 4th Street & M Street
26	7-9-10	E. 4th Street & L Street
29	8-10-13	Mass. Avenue & Harrision Avenue
30	8-10-13	Mass. Avenue & Harrision Avenue
31	9-10	E. Broadway & L Street
43	10	Dorchester Street & W. Broadway
44	10	Dorchester & W. 8th
45	11	E. 8th Street & Dorchester Street
46	11	E. 8th & L Street
47	11	E. 8th & Covington
48	15-17	Hancock opp. Cameron
50	15-16-17	Columbia Road & Arion Street
52	16	Columbia Road & Wolcott Street
54	17	Bowdoin & Mt. Ida
55	17	Bowdoin & Quincy
56	18	Dorchester Avenue & Kimball Street
57	18	Dorchester Avenue and Ellet Street
59	19-22-23	Warren Street & Savin Street
60	19-22-23	Warren Street & Martin L. King Boulevard
61	20	Gallivan Bouleveard & Sylvester Road
62	20	Gallivan Boulevard & Myrtlebank Avenue
63	20	Adams Street & Minot Street
69	23	Washington Street & Columbia Road
70	24	Truman Highway & Fairmount Avenue
71	24-31-33	River Street & Metropolitan Avenue
72	24-31-33	River Street & Wood Avenue
73	24-31-33	River Street & Wachusetts Street
74	24-31-33	River Street & Holmfield Avenue
75	24-31-33	River Street & Cummins Highway
76	24-31-33	River Street & Central Avenue
82	27	River & Cedar Streets
83	27	River Street opp. Cedar Street
84	27-215	Dorchester Avenue & Valley Road
85	28-30	Cummins Highway & River Street

8-11 Feet (Con't)

86	29	Blue Hill Avenue & Fairway Street
87	29	Blue Hill Avenue at #1500
89	29	Blue Hill Avenue & Morton Street
92	30	Cummings Highway & Washington Street
93	31-32-50	H.P. Avenue & River Street
94	31-32-50	H.P. Avenue & River Street
95	31	H.P. Avenue at #1377
97	32	H.P. Avenue at #942
98	32	H.P. Avenue & Cumming Highway
99	32	H.P. Avenue & Willow Avenue
100	33	River Street & H.P. Avenue
101	34	Washington Street opp. Rockingham
103	34-36-40	Washington Street & Beech Street
104	34-36-40-50	Popular & Corinth Streets
105	35-36-37	Belgrade Avenue & Roberts Streets
106	35-36-37	South Street & Taft Hill Park
107	35-36-37	Centre Street & Corey Street
108	35-36-37	Centre Street & Corey Street
109	35-36-37	Centre Street & Richwood Street
113	37	Lagrange Street & Vermont Street
114	38	Centre & South Streets
115	38	Centre & Weld Streets
117	38-41-59	Centre & Eliot Streets
118	35-36	Centre Street & St. Theresea Avenue
119	35-36-37	Centre & LaGrange Streets
120	E 39-59	South Street & Parklot St. Thomas
121	E 39-59	South Street & Carolina Avenue
125	E 39-66	Huntington Avenue & Wait Street
126	E 39-66	Huntington Avenue & Fenwood Road
128	E 39	S. Huntington Avenue at V.A. Hospital
131	E 38-39	Centre Street & Burroughs Street
135	41	Centre & Estrella Streets
136	41-46	Centre & Highland Streets
138	43	Tremont & New Dudley Streets
144	43	Tremont & Appleton Streets
146	44	Humboldt Avenue & Seaver Street
147	44	Humboldt Avenue & Townsend Street
152	47	Ruggles & Huntington Avenue
154	50	Popular Street at Beech Street
155	50	Popular Street at Beech Street
156	51	Roberts & Belgrade Avenue
158	51	Weld & West Roxbury Parkway
159	51	Weld & Centre Streets
160	55	Queensberry & Jersey Streets
162	57	Washington & Brock Streets
163	57	Washington & Lake Streets
165	57	Brighton at Islington
166	57	Brighton & Harvard Avenues
167	57	Brighton & Commonwealth Avenues
169	60	Brookline Avenue & Fullerton

8-11 Feet (Con't)

<u>Shelter</u>	<u>Route #</u>	<u>Location</u>
171	60	Brookline Avenue & Deaconess Road
172	60	Brookline Avenue & The Fenway
173	63	Chestnut Hill & Englewood Avenue
174	63	Chestnut Hill Avenue opp. Wiltshire Road
175	63-65	Chestnut Hill Avenue & Union Street
176	63	Market & Washington Streets
177	63	Market & N. Beacon Streets
178	63	Western Avenue opp. #385
179	63	Chestnut Hill Avenue & Wiltshire Road
180	64	N. Beacon & Market Streets
182	66	Harvard & Commonwealth Avenue
183	68	E. Concord Street & Harrison Avenue
184	68	W. Dedham Street at #75
185	68	W. Dedham Street opp. #75
189	93	Common Street opp. Park Street
191	112	Meridian Street at Saratoga
196	120	Orient Avenue at #150
197	120	Bennington & Curtis Streets

